DOCUMENT RESUME

ED 477 673 EC 309 646

AUTHOR	Boothroyd, Roger A.; Armstrong, Mary I.
TITLE	Co-Morbidity among Children with Disabilities.
INSTITUTION	University of South Florida, Tampa. Research and Training Center for Children's Mental Health.
SPONS AGENCY	National Inst. on Disability and Rehabilitation Research (ED/OSERS), Washington, DC.
PUB DATE	2002-03-00
NOTE	8p.; In: Annual Conference Proceedings--A System of Care for Children's Mental Health: Expanding the Research Base (15th, Tampa, FL, March 3-6, 2002). Chapter 4: Child Welfare and Medicaid. pp275-280.
CONTRACT	H133B90022
AVAILABLE FROM	For full text: http://rtckids.fmhi.usf.edu/conference_proceedings.htm.
PUB TYPE	Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	Elementary Secondary Education; *Emotional Disturbances; Health Services; *Incidence; Mental Disorders; *Multiple Disabilities; *Needs Assessment; *Policy Formation; *Special Health Problems; Surveys

ABSTRACT

This paper reports on a study that examined the co-morbidity of health and mental health problems in children and youth by investigating: (1) the prevalence of significant health and mental health problems among children with either a health or mental health disability; (2) how these prevalence rates compare to a general sample of children in families receiving Temporary Assistance to Needy Families; and (3) the rate of unmet service needs among children with co-occurring mental health disabilities. Children (n=1,145) either had no disability or received Supplemental Security Income because of a health disability (n=161) or had an identified mental health disability (n=220). Child caregivers completed a questionnaire. Findings indicated that the rate at which children with an identified mental health disability were found to have an existing health problem (37.8%) was similar to the rate at which children with an identified health disability were found to have an existing mental health problem (37%). Among both groups of children, the likelihood of having current co-morbid health and mental health problems was approximately 26%. In both groups of children with disabilities, unmet mental health needs were found to be 2 to 3 times higher than were unmet health needs. Three policy recommendations supported by the study conclude the report. (Contains 19 references.) (DB)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 477 673

Co-Morbidity Among Children with Disabilities

By
Roger A. Boothroyd
Mary I. Armstrong

March 2002

EC 309646

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

BEST COPY AVAILABLE

Co-morbidity Among Children with Disabilities

Roger A. Boothroyd
Mary I. Armstrong

Introduction

Numerous recent studies have examined the presence of co-morbid mental health conditions in children and youth (Eiraldi, Power, Karustis, & Goldstein, 2000; Manassis, & Monga, 2001; Masi, Favilla, Mucci, & Millepiedi, 2000; Pliszka, 2000; Young, 1998) and the prevalence of mental health and co-occurring substance abuse problems (King, Gaines, Lambert, Summerfelt, & Bickman, 2000; Thompson, Riggs, Mikulich, & Crowley, 1996; Zeitlin, 1999). Additionally, several studies have examined the prevalence of mental health problems among children with physical disabilities (Cohen, Pine, Must, Kasen, & Brook, 1998; Lavigne & Faier-Routman, 1992; Nolan & Pless, 1986). However, a review of the literature revealed few studies examining the prevalence of co-morbid health problems among children and youth with serious emotional problems (Combs-Orme, Heflinger, & Simpkins, 2002). Despite the paucity of research, the importance of the research conducted to date is supported by the fact that the report of the Surgeon General's Conference on Children's Mental Health (2000) stressed the need to train primary health care providers to identify mental health problems in children, particularly among those with special health care needs. This study examined the co-morbidity of health and mental health problems in children and youth by addressing three basic questions:

- What is the prevalence of significant health and mental health problems among children with either a health or mental health disability?
- How do these prevalence rates compare to a general sample of children in families receiving Temporary Assistance to Needy Families (TANF)?
- What is the rate of unmet service needs among children with co-occurring mental health disabilities?

Methodology

Participants

This study included 1,145 children from three disability groups: (a) TANF/non-Social Security Income (non-SSI; no disability, $n = 764$), (b) children receiving SSI because of a health disability ($n = 161$), and (c) children receiving SSI because of a mental health disability ($n = 220$). Table 1 presents a summary of the characteristics of the children in this study across the three disability groups.

Children's ages differed by disability status, $F(2,1144) = 30.07$, $p < .001$. Children with mental health problems were significantly older than either children with health problems or those with no disabilities. Significant gender differences were also found across disability groups, $\chi^2(2, N = 114) = 36.23$, $p < .001$. Children with mental health or health problems were more likely to be boys than were children without a disability. Finally, there were racial/ethnic differences among the children in the three disability groups, $\chi^2(6, N = 1145) = 13.31$, $p < .05$. Children with mental health problems were more likely to be Black/NonHispanic and less likely to be Hispanic compared to children without a disability who were more likely to be Hispanic and less likely to be Black/NonHispanic.

Measures

Data were gathered using mail survey procedures. The administered questionnaire contained previously developed and validated measures of health and mental health status. Caregivers were asked to report on their child's health status using questions adapted from the Child Health Questionnaire (CHQ; Landgraf, Abetz, & Ware, 1999). Caregivers reported children's mental health status using the Pediatric Symptom Checklist (PSC; Jellinek, Murphy, & Burns, 1986). Additionally, the questionnaire

BEST COPY AVAILABLE

Table 1
Child Characteristics

Disability Group	None (TANF/nonSSI) (n=764)	SSI-Health (n=161)	SSI-Mental Health (n=220)	Overall (n=1145)	p<
Age					
Mean/SD	11.1/3.56	11.6/3.84	13.2/3.22	11.6/3.63	.001
Range	5 to 21	5 to 21	6 to 20	5 to 21	
Gender					
Male	51.2	62.7	73.2	57.0	.001
Female	48.2	37.3	26.8	43.0	
Race/Ethnicity					
White/NH	40.7	42.2	39.5	40.7	
Black/NH	38.7	41.0	46.8	40.6	.05
Hispanic	16.6	11.8	8.2	14.3	
Other/NH	3.9	5.0	5.5	4.4	

contained demographic information regarding the age, race/ethnicity, and gender of the children and their SSI disability status (e.g., SSI for health, SSI for mental health, TANF i.e., non-disabled). The questionnaire was printed as an 8.5" by 7" booklet in both English and Spanish and was personalized to include information specific to the child printed on the form. A personalized cover letter was included; it was designed to protect respondents' confidentiality and to reduce possible stigma to the child's caregiver. The letterhead contained a toll-free telephone number in the event that caregivers had questions about the survey or wanted to complete it over the phone.

Procedures

Data were collected as part of a larger population-based study examining the effects of managed care on access to and quality of services. A highly systematic and structured mail survey methodology was used similar to that recommended by Dillman (1978) and Salant and Dillman (1992). In total, five separate mailings were conducted. The first mailing consisted of a prenotification postcard to each child's caregiver explaining that we were conducting a study examining their health care services and that they would receive a questionnaire in the mail in about a week. One week later a second mailing was conducted. This mailing included a personalized cover letter and questionnaire (in both English and Spanish), an explanation of the purpose of the study, the fact that respondents would be paid $7.00 for returning a completed questionnaire, and information about the days and hours of operation of the toll-free telephone number. A preaddressed stamped return envelope was also included in the mailing. One week later, a postcard reminder was sent to each person who had not yet responded. This reminder emphasized the importance of the study and again included information on the toll-free telephone number they could call. Two weeks after the postcard reminder was mailed, a fourth mailing containing a cover letter, questionnaire, and return envelope was mailed to each non-respondent. Finally, four weeks later, a fifth mailing was sent via certified mail to individuals who still had not responded. As with the first and fourth mailing, enrollees received a personalized cover letter, questionnaire, and a preaddressed, stamped return envelope. As recommended by Dillman (1978), first class postage was used on both the outgoing and return envelopes of each mailing, and address correction was requested from the post office so that mailing lists could be updated. These mailing procedures were based on the findings of a feasibility study conducted to assess the validity of using mail survey procedures with a Medicaid population. The findings from this feasibility study are summarized in Boothroyd and Shern (1998). Telephone coverage was available weekdays until 8:30 pm so that caregivers not able to call during the day could call during the evening.

BEST COPY AVAILABLE

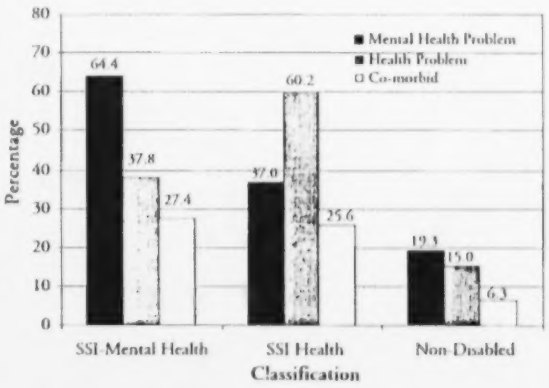
Results

Two "disability" groupings were identified based on whether children received SSI for (a) emotional/behavioral problems, or (b) health problems. These children were compared to a "no disability" group based on being in a family receiving TANF and not in receipt of SSI. The non-disability comparison group of TANF/non-SSI children was then used to estimate the presence of current health or mental health problems among disability groups. In all cases, children receiving SSI for reasons of mental retardation were excluded. Children whose composite score on the health measure was more than one standard deviation below the comparison group mean (indicating poorer health relative to 84% of the children in the TANF/non-SSI group) were considered to have a current health problem. Similarly, children whose total score on the mental health measure was more than one standard deviation above the comparison group mean (indicating greater levels of symptomatology relative to 84% of the children in the TANF/non-SSI group) were considered to have an existing mental health problem. The current rates of health and mental health problems were then estimated for each of the three disability groups.

Figure 1 and Table 2 summarize the estimated prevalence rates of current health, mental health, and co-morbid problems among the children surveyed by disability category. Significant differences were found for the presence of health and mental health problems among children in the three disability groups.

Not surprisingly, children receiving SSI for a particularly disability were most likely to be identified as currently having that problem. Specifically, children receiving SSI for health reasons were significantly more likely to have a current health problem (60.2%) relative to children receiving SSI for mental health reasons (37.8%), who in turn were more likely to have a health problem than children with no disability, (15.0%) $F(2,931) = 67.42$, $p < .001$.

Figure 1
Prevalence of Current Health and Mental Health Problems by Disability Classification



As shown in Table 2, significant differences were found among disability groups in terms of the presence of mental health problems, $F(2,931) = 76.13$, $p < .001$. Post hoc examination revealed that children receiving SSI for mental health reasons were significantly more likely to have a current mental health problem (64.4%) relative to children receiving SSI for health reasons (37.0%), who were in turn significantly more likely to have mental health problems compared to children with no disability (19.3%).

Table 2
Prevalence of Health and Mental Health Problems Among Disability Groups

Disability Group	*Current Health Problem*	*Current Mental Health Problem*	*Current Comorbid Health & Mental Health Problem*
None (TANF/nonSSI)	15.0	19.3	6.3
SSI-Health	60.2	37.0	25.6
SSI-Mental Health	37.8	64.4	27.4

Similar rates of co-morbid health and mental health problems were found among the two disability groups. The rate of co-morbidity for children on SSI for health problems was 25.6%; the co-morbidity rate among children receiving SSI for emotional behavioral problems was 27.4%. These rates were significantly higher than the 6.3% rate found for children in the non-disabled comparison group (i.e., TANF), $F(2, 1135) = 49.93$, $p < .001$.

A summary of children's unmet service needs is presented in Figure 2 and Table 3. In terms of health related services, between 1.6% and 2.5% of the children experiencing significant health problems were not accessing needed services. The rates of unmet mental health needs were somewhat higher and more variable, ranging from 9.5% among children with mental health problems to 2.0% among children with no specified disability.

Figure 2
Rates of Unmet Service Needs by Disability Classification

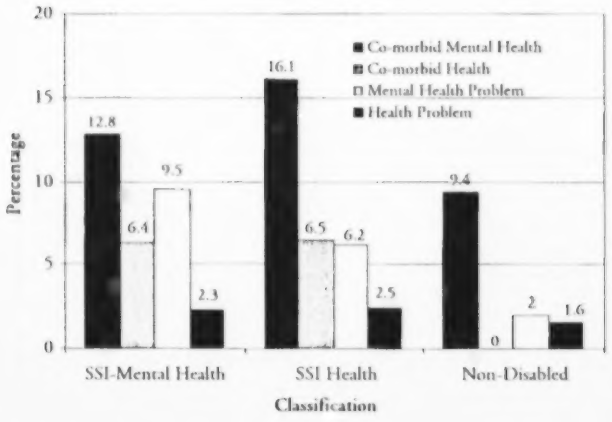


Table 3
Unmet Service Needs of Children with Health and Mental Health Problems Among Disability Groups

Disability Group	*Current Health Problem*	*Current Mental Health Problem*	*Current Comorbid Health & Mental Health Problem (Health/Mental Health)*
None (TANF/nonSSI)	1.6	2.0	0.0 / 9.4
SSI-Health	2.5	6.2	6.5 / 16.1
SSI-Mental Health	2.3	9.5	6.4 / 12.8

Summary and Conclusion

The rate at which children with an identified mental health disability were found to have an existing health problem (37.8%) was similar to the rate at which children with an identified health disability were found to have an existing mental health problem (37.0%). Among both groups of children, the likelihood of having current co-morbid health and mental health problem was also similar at approximately 26%. Additionally, in both groups of children with disabilities, unmet mental health needs were found to be 2 to 3 times higher than were unmet health needs.

We believe the findings support a number of recommendations related to the diagnosis and treatment of children. First, there is a need to implement a comprehensive health policy that emphasizes the importance of assessing all children for health and mental health problems and disabilities. Second, as was recommended by the Bazelon Center for Mental Health Law (1999), early, periodic screening and diagnostic treatment (EPSDT) screenings (i.e., periodic health care checks for low-income children) should routinely include a brief mental health assessment. Third, as noted by the Surgeon General, primary health care providers need to be educated on the identification of mental health problems in children, particularly among those with special health care needs (U. S. Public Health Service, 2000). In addition, mental health practitioners need further education related to the identification of health problems in children, particularly among those with serious emotional disturbance. Finally, managed care plans with mental health carve-outs should pay special attention to the prevalence of health disabilities and problems in children with mental health needs.

References

Bazelon Center for Mental Health Law. (1999). *Where to turn: Confusion in Medicaid policies on screening children for mental health needs.* Washington, DC: Author.

Boothroyd, R. A., & Shern, D. L. (1998, January). *Accessing the feasibility of using mail survey methodology with Medicaid enrollees: A summary of a pilot study for the member survey.* Tampa, FL: Louis de la Parte Florida Mental Health Institute, University of South Florida.

Cohen, P., Pine, D. S., Must, A., Kasen, S., & Brook, J. (1998). Prospective associations between somatic illness and mental illness from childhood to adulthood. *American Journal of Epidemiology, 147,* 232-239.

Combs-Orme, T. Heflinger, C. A., & Simpkins, C. G. (2002). Comorbidity of mental health problems and chronic health conditions in children. *Journal of Emotional and Behavioral Disorders 10*(2), 116-125.

Dillman, D. A. (1978). *Mail and telephone surveys: The total design method.* New York, John Wiley & Sons, Inc.

Eiraldi, R. B., Power, T. J., Karustis, J. L., & Goldstein, S. G. (2000). Assessing ADHD and comorbid disorders in children: The Child Behavior Checklist and the Devereux Scales of Mental Disorders. *Journal of Clinical Child Psychology, 29,* 3-16.

Jellinek, M. S., Murphy, J. M., & Burns, B. J. (1986). Brief psychosocial screening in outpatient pediatric practice. *The Journal of Pediatrics, 109,* 371-378.

King, R. D., Gaines, L. S., Lambert, E. W., Summerfelt, W. T., & Bickman, L. (2000). The co-occurrence of psychiatric substance use diagnoses in adolescents in different service systems: Frequency, recognition, cost, and outcomes. *Journal of Behavioral Health Services & Research, 27,* 417-430.

Landgraf, J. M., Abetz, L., Ware, J. E. (1999). *The CHQ User's Manual. Second Printing.* Boston: Health Act.

Lavigne, J. V., & Faier-Routman, J. (1992). Psychological adjustment to pediatric physical disorders: A meta-analytic review. *Journal of Pediatric Psychology, 17,* 133-157.

Manassis, K., & Monga, S. (2001). A therapeutic approach to children and adolescents with anxiety disorders and associated comorbid conditions. *Journal of the American Academy of Child & Adolescent Psychiatry, 40*, 15-117.

Masi, G., Favilla, L., Mucci, M., & Millepiedi, S. (2000). Depressive comorbidity in children and adolescents with generalized anxiety disorder. *Child Psychiatry & Human Development, 30*, 205-215.

Nolan, T. & Pless, I. B. (1986). Emotional correlates and consequences of birth defects. *Journal of Pediatrics, 109*, 210-216.

Pliszka, S. R. (2000). Patterns of psychiatric comorbidity with attention-deficit/ hyperactivity disorder. *Child & Adolescent Psychiatric Clinics of North America, 9*, 525-540.

Salant, P. A., & Dillman, D. A. (1992). *How to conduct your own survey.* New York, John Wiley & Sons, Inc.

Thompson, L. L., Riggs, P. D., Mikulich, S. K., & Crowley, T. J. (1996). Contribution of ADHD symptoms to substance problems and delinquency in conduct-disordered adolescents. *Journal of Abnormal Child Psychology, 24*, 325-347.

U. S. Public Health Service. (2000). *Report of the Surgeon General's Conference on Children's Mental Health: A National Action Agenda.* Department of Health and Human Services. Washington, DC: Author.

Young, S. E. (1998). Family factors underlying attention deficit hyperactivity disorder and conduct disorder: A study of comorbidity. (Doctoral dissertation, The Sciences & Engineering University), 1998). *Dissertation Abstracts International, 59*(6-B), 3045.

Zeitlin, H. (1999). Psychiatric comorbidity with substance misuse in children and teenagers. *Drug & Alcohol Dependence, 55*, 225-234.

CONTRIBUTING AUTHORS

Roger A. Boothroyd, Ph.D.
Department of Mental Health Law & Policy, Louis de la Parte Florida Mental Health Institute, University of South Florida, 13301 Bruce B. Downs Blvd., Tampa, FL 33612-3807; 813-974-1915, fax: 974-4696, e-mail: boothroyd@fmhi.usf.edu

Mary I. Armstrong, M.S.W., M.B.A.
Department of Child and Family Studies, Louis de la Parte Florida Mental Health Institute, University of South Florida, 13301 Bruce B. Downs Blvd., Tampa, FL 33612-3807; 813-974-4601, fax: 813-974-4376; e-mail: armstron@fmhi.usf.edu

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

NOTICE

Reproduction Basis

	This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.
X	This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").